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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,991	10/21/2004	Tomotada Kamei	10873.1506USWO	8410

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EXAMINER	
PHAM, VAN T	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/511,991	KAMEI ET AL.	
	Examiner	Art Unit	
	VAN T. PHAM	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-17* is/are rejected.

7)☒ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 October 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Narita (US 6,144,107).

Regarding claim 1, Narita discloses a photodetector, comprising: a semiconductor chip (see Fig. 5, element 3) that converts received light to an electric signal; and a resin body that encapsulates the semiconductor chip (see Fig. 5, element 6) wherein the photodetector further comprises a protective unit (see Fig. 5, element 20), and at least a light transmission area (see Fig. 5, and abstract), through which the light passes, in a surface of the resin body (see Fig. 5,

element 6a) on an incident side of the light is covered by the protective unit (see Fig. 5 and abstract).

Regarding claim 2, see Fig. 5, element 20 , discloses the photodetector according to claim 1, wherein the protective unit is a protective layer that is laminated on the surface of the resin body on the incident side of the light.

Regarding claim 3, see Fig. 5, element 20, discloses the photodetector according to claim 1, wherein the protective layer comprises an inorganic substance (see col. 7).

Regarding claim 4, see Fig. 5, discloses the photodetector according to claim 1, wherein the inorganic substance comprises at least one type of inorganic compound selected from the group consisting of silicon oxide, silicon nitride, magnesium fluoride and tantalum oxide (see col. 7).

Regarding claim 5, see Fig. 5, discloses the photodetector according to claim 1, wherein the protective layer has a function of antireflection (see col. 7-8).

Regarding claim 9, see Fig. 5, elements 6, 6a, 18 and 20, discloses the photodetector according to claim 1, wherein the protective unit comprises: a plate member that is disposed above the surface of the resin body on the incident side of the light; and sealing member that bonds at least the light transmission area in the surface of the resin body on the incident side of the light with the plate member.

Regarding claim 10, see Fig. 5 discloses the photodetector according to claim 1, wherein the resin body comprises an epoxy resin (see col. 3).

Regarding claim 11, see Fig. 5 and cols. 6-7, discloses the photodetector according to claim 1, wherein an absorptance of the light by the resin body is 10% or less.

4. Claims 1, 3-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Masaru Kamio (JP H4-152556).

Regarding claim 1, Kamio discloses a photodetector, comprising: a semiconductor chip (see Fig. 1, element 2) that converts received light to an electric signal; and a resin body that encapsulates the semiconductor chip (see Fig. 1, element 1) wherein the photodetector further comprises a protective unit (see Fig. 1, element 6), and at least a light transmission area (see Fig. 1) through which the light passes, in a surface of the resin body (see Fig. 1, element 5) on an incident side of the light is covered by the protective unit (see Fig. 1).

Regarding claim 3, see Fig. 1, element 6, discloses the photodetector according to claim 1, wherein the protective layer comprises an inorganic substance (see page 4).

Regarding claim 4, see Fig. 1, discloses the photodetector according to claim 1, wherein the inorganic substance comprises at least one type of inorganic compound selected from the group consisting of silicon oxide, silicon nitride, magnesium fluoride and tantalum oxide (see page 4).

Regarding claim 5, see Fig. 1, discloses the photodetector according to claim 1, wherein the protective layer has a function of antireflection (see page 4).

Regarding claim 6, Kamio discloses the photodetector according to claim 1, wherein the protective layer is formed by sputtering, evaporation or spin coating (pages 4-5).

Regarding claim 10, see Fig. 1 discloses the photodetector according to claim 1, wherein the resin body comprises an epoxy resin (see page 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narita (US 6,144,107) in view of Ogasawara (US 6,594,221).

Regarding claim 12, the combination of Narita and Ogasawara discloses an optical head device, comprising: a light source (Fig. 2, element 1); a condensing unit that receives light emitted from the light source and collects the light onto an optical storage medium (see Fig. 2, element 16); and a photodetector that receives light reflected from the optical storage medium and converts the light to an electric signal (Fig. 2, elements 18-19), wherein the photodetector, comprises: a semiconductor chip that converts received light to an electric signal; and a resin body that encapsulates the semiconductor chip, wherein the phtodetector further comprises a protective unit, and at least a light transmission area, through which the light passes, in a surface of the resin body on an incident side of the light is covered by the protective unit (see rejection above of claim 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention provide the photodetector in Ogawa as suggested by Narita, the motivation being in order to have excellent in heat-resistance so particularly as to resist or to withstand the reflow-soldering process (see Narita col. 2, lines 5-8).

Regarding claims 13-14, the combination of Narita and Ogasawara, discloses the optical head device according to claim 12, wherein the case where a transmittance of light having a

wavelength of lambda1 with respect to the resin body is 10%, a wavelength lambda of the light source satisfies a relationship of lambda1 <lambda < 1.5 lambda1 or 390 nm <lambda < 420 nm (see Ogasawara col. 6 and Narita col. 6).

Regarding claim 15, see rejection above of claim 12, further the combination of Narita and Ogasawara discloses an electric signal processing unit that receives a signal output from the optical head device and outputs a predetermined signal (see Narita Fig. 5); and a driving unit that receives the predetermined signal so as to change a position of at least one selected from the optical head device and the condensing unit (see Fig. 2 and col. 7, lines 1-25).

Regarding claim 16, see rejection above of claims 15 and 13.

Regarding claim 17, see rejection above of claim 14.

Allowable Subject Matter

7. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7-8 are allowable over prior art of record since it does not disclose or suggest all of the limitations of claim 1 as well as the limitation that **the protective unit comprises: a plate member that is disposed above the surface of the resin body on the incident side of the light; a sealing member that bonds the plate member and the resin body and is located away from the light transmission area; and an inert gas enclosed in a space surrounded by the surface of the resin body on the incident side of the light, the plate member and the sealing member and the inert gas comprises nitrogen.**

Cited References

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited references relate to:

a. Optical device (Ogasawara US 6,594,221).

b. Plurality of photodetectors, each having individually selected light-transmitting member on front face to provide uniform output characteristic (Shimoyama et al. US 5,859,423).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN T. PHAM whose telephone number is 571-272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP

THANG V. TRAN
PRIMARY EXAMINER